Link-time Plug-ins

Wolfram Rösler

Code: https://gitlab.com/wolframroesler/linktimeplugin

Slides:https://gitlab.com/wolframroesler/Talks/blob/master/linktimeplugin.pdf

About me

Wolfram Rösler

Programming since age 15
Developing industry-grade software since 1989
… using Unix since before there was Linux
… using sh since before there was bash
… using vi since before there was vim

Software developer, former head of software development, former CTO

Open Source contributor (KeePassXC, civetweb, bash_unit, …)

Currently Senior Software Engineer and Software Quality Architect at devolo AG

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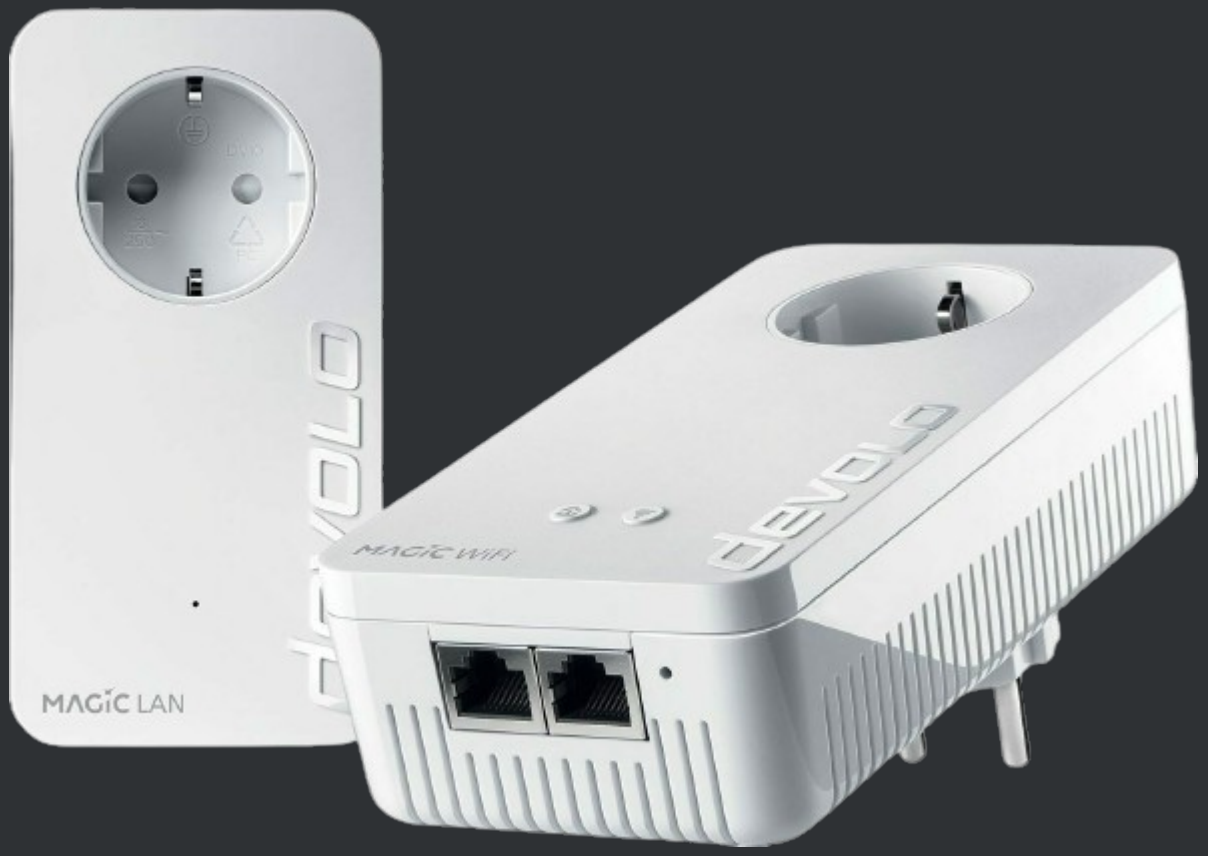
Example: API for Powerline Adapters



We have URLs for API endpoints

`http://10.0.1.123/api/v1/set_device_name`

`http://10.0.1.123/api/v1/start_plc_pairing`

`http://10.0.1.123/api/v1/start_wifi_wps`

How to run the endpoint handler?

```
int handleEndpoint(const std::string& name)
{
    if (name==“set_device_name“) {
        return setDeviceName();
    } else if (name==“start_plc_pairing“) {
        return startPLCPairing();
    } else if (name==“start_wifi_wps“) {
        return startWifiWPS();
    } else {
        return 404;
    }
}
```

How to handle the endpoints?

```
int handleEndpoint(const std::string& name)
{
    if (name==“set_device_name“) {
        return setDeviceName();
    }

#if HAS_PLC
    if (name==“start_plc_pairing“) {
        return startPLCPairing();
    }
#endif

#if HAS_WIFI
    if (name==“start_wifi_wps“) {
        return startWifiWPS();
    }
#endif

    return 404;
}
```

But what we really want:

```
int handleEndpoint(const std::string& name)
{
    for(auto& e : endpoints()) {
        if (e.name()==name) {
            return e.execute();
        }
    }

    return 404;
}
```